the origin of the features of "The Moon's Face," in a presidential address to the Philosophical Society of Washington in 1892. In 1890 he had described the history of the Niagara River for the Commissioners of the State Reservation, and in 1907, when schemes for utilising the water-power of the falls threatened the normal continuation of their erosive action, he reported on their rate of recession both on the Canadian and on the American side. Almost simultaneously his unfailing judgment was called on to investigate the disastrous earthquake of 1906 at San Francisco. Among his later work may be cited an experimental study on river-transport (U.S. Geol. Surv., Professional Paper 86, 1914).

Dr. Gilbert was a man of strong build and fine presence, equally considerate to his colleagues and to the younger workers whom his methods and personality inspired. Those who were privileged to meet him in various lands will readily acknowledge that he was and remains one of those who have well deserved the title "great."

GRENVILLE A. J. COLE.

NOTES.

THE report of the council of the British Association was received and adopted at the statutory meeting of the general committee held on Friday last, July 5. Much disappointment was expressed that no ordinary meeting had been held for the second year in succession, and a resolution was adopted unanimously asking the council to arrange for a meeting in London next year if it should not be possible to meet at Bournemouth. It was left to the council to decide whether the meeting should be of the usual kind, with the various sections of the Association in session, or should take the form of a conference at which some of the national aspects of scientific work would be presented. We urged the desirability of a London meeting several months ago, and are glad, therefore, that the general committee has expressed itself so decidedly in favour of it.

SIR EDWARD SCHAFER, professor of physiology in the University of Edinburgh, wishes it to be known that he is adopting the name of Sharpey before the surname of Schafer.

WE regret to see the announcement of the death, on June 29, at sixty-five years of age, of Prof. Alfred Senier, professor of chemistry and lecturer in medical jurisprudence and hygiene in University College, Galway.

PROF. J. N. LANGLEY, professor of physiology in the University of Cambridge; Sir F. W. Dyson, Astronomer Royal; Prof. Horace Lamb, professor of mathematics in the University of Manchester; and Sir E. Rutherford, Langworthy professor of physics in the University of Manchester, have been elected foreign members of the Reale Accademia dei Lincei, Rome.

WE regret to record the death on June 24 of Prof. F. P. Treadwell, professor of analytical chemistry at the Polytechnic Institute, Zurich. Prof. Treadwell was a native of the United States, where he was born in 1857. He came early to Europe, and entered the University of Heidelberg in 1875, graduating three years later. For some time he acted as lecture assistant to Bunsen, and then proceeded to Zurich, where he served in a similar capacity under Victor Meyer. Eventually, in 1894, he received the appointment to a professorship, which he retained until his death. During his long stay of more than thirty years at Zurich Prof. Treadwell became a well-known and respected figure in the town. His name is familiar in this country and abroad by reason of his two-volume treatise on analytical chemistry, of which eight editions have appeared. That he retained an active interest in the branch of chemistry to which he had devoted himself is shown by the fact that not long ago, with a collaborator, he worked out a new method for estimating thiocyanic acid and hydrogen sulphide iodometrically.

AMONG the points discussed by Lord Moulton in his presidential address to the Institute of Gas Engineers on June 4 was the question of replacing the existing statutory illumination standards for coal-gas by standards based upon calorific value. With the use of the incandescent mantle now almost universal, it has become immaterial whether gas possesses illuminating power or not. The effect of the mantle depends on the calorific value of the gas, not on its light-giving properties. Provided that the gas will give out the requisite heat to raise the mantle to its proper degree of incandescence, the illumination obtained is from six to eight times that given by gas of statutory quality when used without the mantle. The illuminating properties, moreover, are conferred upon gas by the heavy hydrocarbons (olefines and benzene), which could be better used in other ways—partly as fuels, partly as a source of the important hydrocarbons which yield us our dyes, explosives, and other chemical products. That a large portion of these valuable substances should be sacrificed in imparting to coal-gas a property which has ceased to be of value is a loss to the community which should not be allowed to continue.

AT a symposium of the Zoological Society of America two addresses (reported in *Science*, May 17, pp. 473–81) were delivered on the value of zoology. In one of these Prof. M. F. Guyer, of Wisconsin University, deals with the utilitarian value, shrewdly premising (1) that widening the intellectual horizon and casting out the twin devils of superstition and ignorance are more useful gains than those which make for material well-being; and (2) that nowhere outside zoology "are there greater opportunities for developing that questioning, impartial, problem-solving attitude of mind which must obtain, if truth and sanity are to rule the world." He then proceeds to give vivid illustrations of the contributions zoology has made to the problems of health and disease, agriculture and animal husbandry, the conservation of natural resources, the utilisation of fisheries, and human eugenics. The other address, by Prof. H. B. Torrey, of Reed College, deals with the value of zoological science to the individual—the mythical average man—as organism, as citizen, and as personality. He justly sets great store on the educative value of getting, or trying to get, a clear view of distinctively biological concepts, such as organism, growth, development, behaviour, adaptability, evolution. These are all vivid, dynamic conceptions, the lack of which has often been a handicap, even to minds of the first rank. He indicates that amelioration of human life must have a scientific foundation (though other than cognitive factors may also be fundamental), and that zoology includes a vast realm of important facts bearing on or directly touching this complex life of ours. On another tack he points out that zoology is rapidly progressive, with problems for all comers to work at, a wholesome stimulation to all intellectual combatants. In biological science, in part because of its youthfulness, there are great possibilities of a return to "a wholesome apprenticeship as in the days when students were the assistants of their masters, shared their hopes and ambitions, and felt the stimulus of their creative activity." There is here the touch of "The Third Floor Back"—for students as well as for teachers.

In the Bankfield Museum Notes, second series, No. 10, Mr. H. Ling Roth continues his studies in primitive looms by an account of those of Indonesia. The loom of this region belongs to the Pacific type, of which the most important are the American and the Ainu. Taking the area in a wide sense, there appear to be three forms of loom in Indonesia—the Dusun and Iban (Sea Dayak) looms, the Ilanun and Igorob transition loom, and the Cambodia and Malay loom. Of these the Dusun and Iban loom is the most primitive, consisting of a warp beam attached to two upright posts, a breast beam attached to a back strap, several laze rods, a shed stick, one "single" heddle, a beater-in, a temple, and a spool. The warp is continuous, and the weaver sits on the floor. The monograph is, as with others in the series, provided with several excellent illustrations from drawings.

In a paper republished from the Proceedings of the British Academy (vol. viii.) under the title of "Cosmic Law in Ancient Thought," Prof. T. W. Rhys-Davids discusses the question of animism as defined by the late Sir E. Tylor. This is merely another name for the soul-theory, but it was a great advance to replace the ambiguous expression "soul" by a new scientific word which could be used in a definite sense. There is, however, a group of facts which cannot be included in this definition—those behind which is a single underlying principle, the belief in a certain rule, order, or law. Thus, among the Chinese, the fact of a boy having a hare-lip was explained to Prof. de Groot as resulting from the child's mother having during her pregnancy accidentally made a cut in an old coat of the father's she was mending. This is a definite law of causation, however absurd it may appear. For cases of this kind Prof. Rhys-Davids proposes the term "normalism," which is convenient, and will probably be included in the nomenclature of comparative religion.

Mr. Waino Pekkola, who during the last four years has been engaged in the study of the fish fauna of the Nile, publishes in Sudan Notes and Records, No. 2, April, 1918, a report on the "Seasonal Occurrence and Edibility of Fish at Khartoum." At present nearly 200 species are known to exist in the Nile system, but only a small number of these occur in the rivers near Khartoum, and still fewer are constantly present throughout the year. The most abundant are the Siluridæ or cat-fishes, of which the commonest is Synodontis, Schall. Almost as abundantly represented is the family Mormyridæ, all the members of which are African fish. Of the Cyprinidæ there are four species of Labeo. Of the Cichlidæ *Tilapia nilotica* has a wide distribution from the Sea of Galilee and the River Jordan all over the Nile system. The salting of fish is at present carried out only to a small extent in the Sudan, but many of the small species of the genera Barbus and Alestes would be valuable as food if salted in a proper manner.

The British Museum (Natural History) has just issued the report on the Arachnida collected during the British Antarctic Expedition of 1910. The few specimens collected were obtained during the voyage out, from a rocky island off South Trinidad, and on the return journey from New Zealand. Mr. H. R. Hogg, to whom the specimens were submitted, remarks that, unfortunately, nearly one-half of the South Trinidad specimens have not reached maturity. This renders their determination uncertain, and consequently precludes any clear indication of the source from which the fauna had its origin. The island is situated in the belt traversed by the south-east trade winds, and the families represented are mostly those the members of which are carried long distances by the wind. Two new species were included in this collection.

Two papers of considerable interest to ornithologists appear in the *American Museum Journal* for April. In the first of these Messrs. Herbert Lang and James P. Chapin describe the nesting habits of the African hornbills. While confirming much that has already been recorded on this theme, the authors have been enabled to add further details as to the extraordinary nesting habits of these birds. The most striking of these is contained in their assurance that the incarcerated female adds to the thickness of the mud wall used to diminish the entrance to the nesting hole by plastering the inner walls with excrement, containing the chitinous parts of insects and the seeds of forest trees. They also show that the female does not undergo a complete moult during her imprisonment, though this has been generally supposed to be the case. In the second paper Mr. Edward Forbush describes the courtship dances of the heath hen (*Tympanuchus cupida*). The curious sounds emitted by the bird during the display cannot be satisfactorily accounted for, but they are evidently due, in part at any rate, to the inflation of the cervical air-sacs, since no sound is emitted when these are punctured. Some remarkable photographs add considerably to the value of this very careful record.

The British Museum (Natural History) has recently issued the fifth report on Cetacea stranded on the British coasts. The report, compiled by Dr. S. F. Harmer, keeper of the department of zoology, records the whales stranded during 1917. The most interesting specimens were a white-sided whale, from Lincolnshire, believed to be the first specimen recorded from the English coast; a large sperm whale from Caithness; a Cuvier's whale (*Ziphius cavirostris*) from Co. Clare; and a Risso's Grampus from the south coast of Devon. Examples of the bottle-nose whale (*Hyperoodon rostratus*) were recorded from Caithness, from Cork, and from Dorset, and Dr. Harmer discusses in some detail the occurrence of this whale on the British coasts, which generally takes place during late summer and autumn, the specimens being usually adult females accompanied by a calf. Most of the records have been obtained from information provided by the coastguards, but it is hoped that amateur naturalists will take an interest in this question and see that information as to any Cetacea stranded on the coast is sent to the Natural History Museum. The interesting record of Risso's Grampus on the Devonshire coast would have been lost but for the vigilance and careful examination of Mr. F. Beynon, of Torquay.

We have recently received the first number of a new periodical, the *South African Journal of Natural History*, which is the official organ of the South African Biological Society. This society was formed in the latter part of 1916, and with it were amalgamated the South African Ornithologists' Union and the Transvaal Biological Society, with the object of making a strong body to advance the study of biological questions in the Union of South Africa. The South African Ornithologists' Union was started in 1904, and has issued twenty-two numbers of its journal, which contain much valuable information in regard to the avifauna of South Africa; the Transvaal Biological Society, which was founded in 1907, has held a number of meetings in Pretoria, to which many papers and demonstrations have been submitted, but it has not issued any publication of its own. The new journal, which is edited by Messrs. A. K. Haagner, I. B. Pole Evans, and Claude Fuller, contains a number of useful papers, chiefly on ornithological and entomological subjects. Lieut. G. C. Finch-Davies writes on the birds of the districts of Okanjande and Outjo, in the South-West African Protectorate, formerly German South-West Africa, a region much neglected since the days of C. J. Andersson and F. Eriksson, who collected in the sixties and seventies of the last century. Other bird papers are contributed by Messrs. C. F. M. Swynnerton and R. Godfrey. Mr. Haagner describes a new baboon (*Choiropithecus rhodesiae*) based on an animal living in the Zoological Gardens at Pretoria, and illustrated by a photograph—a rather hazardous proceeding, perhaps, while the animal is still alive. Among the entomological papers are one by Mr. R. W. Jack on the larvæ of some Rhodesian Tenebrionidæ, and one by Mr. C. N. Barker, in which attempts are made to explain some irregularities in the phenomenon of seasonal dimorphism among butterflies. Altogether the part, which consists of 122 pages of well-printed text, is a welcome addition to the list of zoological publications, and, we hope, will continue to appear and to maintain the high standard it has set itself.

IN view of the increasing restrictions upon the importation of wheat, the Department of Agriculture for Trinidad and Tobago has issued a leaflet entitled "Our Local Foods and How to Use Them," which urges economy in the use of wheat-flour and the more extensive use of native plants—sweet potatoes, yams, cassavas, dasheens, and others—as human food. The leaflet embodies many of the recommendations of the British Guiana Flour Substitutes Committee, which was appointed in 1917 to investigate the possibility of procuring locally grown products as substitutes for wheat-flour. The report of this Committee, which was published in the Bulletin of the Department of Agriculture for Trinidad and Tobago (vol. xvi., part 2), states that the products of tropical origin which most nearly approach wheat-flour in food value are rice, guinea-corn, and maize, but it is not possible to make bread of these alone; they can be employed only in the preparation of cakes. On the other hand, these products, and, in addition, cassavas, sweet potatoes, and tannias, are useful adjuncts to imported flour, and by their general use in bread-making it was calculated that the amount of wheat-flour imported in 1916–17 might be reduced to half in 1918. The economical feeding of stock is also strongly urged by the Department of Agriculture, as in 1914 oats and cattle-food to the value of 70,000*l*. were imported. As a substitute for oats, farmers are recommended to grind unshelled corn and to supplement it with locally grown peas and beans, as this practice should reduce the imported cattle-fodder to about one-fifth of its present amount. The high price of food has largely increased the area of land under cultivation in Trinidad, and the Government has recently offered rice lands at a nominal rental, so that the colony should become in the future largely self-supporting.

A SEVERE earthquake, of which very few details have as yet reached this country, occurred at about 6 a.m. (G.M.T.) on February 13 in Swatow, on the southern coast of China, by which several hundred persons were killed and more than a thousand injured. An account of the earthquake, written for the most part in Japanese, is given by Mr. K. Hasegawa in a recent issue (March, 1918) of the Journal of the Meteorological Society of Japan. The position of the epicentre, as determined from records obtained in Japanese observatories, is in lat. 24° N., long. 116° E.

THAT the duration of the preliminary tremor of an earthquake varies with the distance of the epicentre has long been known, though, for earthquakes with neighbouring origins, no simple formula has been devised for estimating the distance of the epicentre from the duration of the tremor. From a discussion of forty-one recent earthquakes in Japan, Prof. Omori shows (Bulletin of the Imperial Earthquake Investigation Committee, vol. ix., 1918, pp. 33–39), that, when the distance does not greatly exceed 1000 kilometres, the distance of the epicentre in kilometres is very nearly 7·42 times the number of seconds in the duration of the preliminary tremor. The only exception within the limit mentioned is that if the duration is less than one second the coefficient should be 6·0.

MR. J. B. TYRRELL (Trans. Roy. Soc. Canada, vol. xi., p. 39, 1917) concludes that the deep vegetable deposits known as "muck," resting on permanently frozen gravels in the Klondike district, began to accumulate at the very opening of the Glacial epoch. The supply of gravel through river action was then cut off, and conditions were established which have lasted down to the present day. The permanently frozen substratum furnished an impervious foundation, on which sufficient water gathered in spring to allow of the growth of Sphagnum and Hypnum, while the streams from the hill-slopes washed down into the flats representatives of the forest flora of the district.

MR. P. W. STUART-MONTEATH (*Comptes rendus*, January 7, 1918) gives reasons for assigning a Cretaceous age to a large extent of limestone, once regarded as Carboniferous, in the "Détroit de la Navarre," a transverse band of sediments separating the Pyrenees from the Basque ranges. He concludes that a great series of intrusive ophites and lherzolites is responsible for the local silicification of various rocks, and that the intrusions are posterior to the Hippurite-limestone and to an overlying conglomerate. The conglomerate contains blocks of ophite, which are interestingly regarded as due to volcanic explosions prior to the veins that were finally injected in the mass from the same subterranean cauldron.

ALTHOUGH a number of weakly magnetic minerals such as zinc-blende are known to be attracted by strong magnetic fields, but little is known as to the degree of magnetisation obtainable. Three investigators describe in *Metall und Erz* for January 8 a method of measuring the susceptibility of such minerals. Zinc-blendes of different varieties were found to have widely varying susceptibilities, some being below 10^{-6} and some as high as 500×10^{-6}.

IN the *Revue générale de l'Electricité* for May 18 methods are described to enable electric generating stations to transmit signals over their systems. These signals could be used for such purposes as time-signals, synchronising clocks, or giving any other pre-arranged signal, such as air-raid warnings, etc. The signals consist of a series of periodic variations of voltage, the magnitude being small compared with the line voltage.

AT the present time, when oils and grease are of so much importance economically and industrially, a writer in *La Nature* for April 27 describes a new process, invented by an Italian (Prof. Lotrionte), that has proved most successful in exterminating the olivefly, which annually destroys about 80 per cent. of the crop. Small wooden boxes are fastened to the tree, and beneath the cover of each box is fixed a bunch of straw. The straw is spread with an insecticide, of which the formula is given. The result has been to reduce the losses to 10 per cent.

FOR the past few years Swedish seaweed has been coveted by the Germans, who, by chemical treatment, made it into fodder, and also extracted valuable chemical products from it. A number of experiments have been made at Stockholm, according to the *Svenska Dagbladet* for May 12, and it has been found that by dry distillation of 1 kg. of dried seaweed the following substances can be extracted:—30 to 32 litres of illuminating gas, 43 per cent. of carbon, 45 per cent. of distillates (acetic acid, methylated spirit, formic acid. acetone, etc.), 14 per cent. of salt (sodium sulphate, potassium sulphate, potassium chloride), also iodine, bromine, a very aromatic tar product, and carbolic tar (creosote?), an excellent preservative of timber. A factory is about to be started by the Focus Co. to take up the conversion of seaweed on a large scale.

WHEN a sphere or other solid symmetrical about an axis performs torsional oscillations about that axis in a viscous liquid it is found that the logarithmic decrement of the oscillation is not constant until the oscillation has died down to less than 0·01 radian, and becomes difficult to measure with the necessary accuracy. Determinations of the viscosity of the liquid from the value of the decrement on the assumption that the oscillations died away according to the simple exponential law have generally given too high results. In Communications from the Physical Laboratory of the University of Leyden, No. 151, Dr. Verschaffelt shows both theoretically and experimentally that the oscillations require at least three terms of the form e^{-nkt}, where e is 2·718, t is the time, n has the values 1, 3, 5, etc., and k is a complex quantity involving the viscosity of the liquid. With this theory as a basis he is able to show that the viscosity of liquid hydrogen at 20° Absolute is 0·00011—that is, about one-hundredth part of that of water at 15° C.

UP to ten years ago our knowledge of the distribution of the electric potential in a vacuum tube through which a discharge was passing was derived from observations with an exploring electrode, but in 1909 Sir Joseph Thomson introduced the more trustworthy method of determining the electric field in a tube by discharging cathode rays across it and measuring the deflection of the rays produced by the field. Using this method, Aston in 1910 found the field in the cathode dark space proportional to the distance from the edge of the negative glow, while Harris in 1915 found it increased much more rapidly as the cathode was approached. Messrs. T. Takamine and U. Yoshida, in the October issue of the Science Memoirs of Kyoto University, give the results of their measurements of the field in narrow tubes by the widening or separation of spectral lines photographed across the field, a method due to Lo Surdo. They find that the field at a point distant d from the end of the dark space exceeds the field at the end by a quantity proportional to d^2. The curves given in the paper show that this law is a close approximation to the facts.

THE May issue of the *Lyonian* (the magazine of the Lower School of John Lyon, Harrow) contains the report of a lecture on "Chemical Change" delivered by Mr. O. A. Le Beau at a meeting of the school scientific society. The lecturer commenced by pointing out that chemical change is of universal and never-ending occurrence, and then differentiated it from physical change. The five different types of chemical change, direct union, decomposition, polymerisation, single replacement and double replacement, were defined, and so far as possible illustrated by experiment. The phenomenon of catalytic action was shown experimentally, and also the action of light upon chemical change. Such a recent development of the action of electricity as the production of "active nitrogen" was illustrated by a repetition of Prof. Strutt's original experiment. We think it commendable that the school possesses a science master who evidently keeps abreast of modern research, and that such a lecture, involving much work in its preparation, should be so enthusiastically received.

WE have received a reprint from the Journal of the West of Scotland Iron and Steel Institute of a paper recently read by Dr. Desch on "Attempted Improvements in the Puddling Process." As Dr. Desch points out, the process of manufacturing malleable iron by means of puddling, invented by Henry Cort in 1784, has undergone surprisingly little alteration in the course of its history. It is still performed in units of small size owing to the fact that manual labour is employed for the manipulation of the metal, and the quantity dealt with cannot exceed that which a man can handle without the aid of machinery. Certain details of Cort's original process have been modified, and have produced an important effect on the development and manufacture, but the principle has remained unchanged. The present report does not deal with such improvements as those which have led to the puddling furnace of the present day, but is an attempt to collect information concerning proposals which have aimed at altering the character of the process, either by lessening the manual labour involved or by increasing the thermal efficiency of the furnace. Few of these suggested improvements, however, have been adopted permanently even on a limited scale, and the type of furnace in universal use differs less from that used at the beginning of the nineteenth century than from most of the proposed substitutes for it. Undoubtedly the most important of these modifications was the Danks furnace, which was a practical success, and its failure to maintain its ground was due, not to any inherent defects, but chiefly to the abandonment of iron-making in favour of steel by those firms which had formerly shown the greatest interest in the problem, and had come nearest to solving it. Dr. Desch's paper is an interesting summary of the subject, and should be of great service.

THE assistance which America is rendering to the Allies in the matter of shipbuilding is illustrated by articles in the *Engineer* and *Engineering* for June 28, descriptive of the world's largest shipyard at Hog Island, on the Delaware. The land on which this shipyard stands was virgin on September 20, 1917; the twenty-first slipway is now in use, and twenty-nine other slipways are in course of construction. A shipyard capable of having fifty ships on the stocks at one time was a thing quite undreamt-of until last year, and suggested the visions of Jules Verne rather than the plans of sane business men. Yet it is now in a fair way of accomplishment, and the estimate may be accepted of fifty ships being built simultaneously, while twenty-eight others are being fitted out at seven piers each of a length of 1000 ft. When that stage is reached there will be a launch every other day, either of a 7500-ton cargo ship or of an 8000-ton combined troop and cargo boat. The site covers 846 acres, and extends over two miles of river front. The various parts of the vessels are being "fabricated" all over the States at 3500 different works, some of them so remote that the average journey takes as many as twenty days. Within five months of commencing operations 26,000 men were employed on the construction of the yard. The site is well inland, away from possible enemy attack.

OUR ASTRONOMICAL COLUMN.

THE NEW STAR IN AQUILA.—Further particulars of the observation of Nova Aquilæ by Prof. Laskovski at Geneva on June 7 have been given in Circular No. 25 of the Marseilles Observatory. The star was observed at 9.45 p.m. mid-European time, and was described as being white, and of a brightness greater than that of α Ophiuchi (mag. 2·1), but less than that of Altair (0·9). This would appear to be the earliest observation so far reported. Subsequent observations agree with those made elsewhere in showing that the star was brighter than Vega on June 9, and had dwindled to about 2nd magnitude by June 18. It is added that the region was under observation by M. Dumastberay at Nyon on June 3 and 4, and that nothing abnormal was then noted.

There appears to have been a slight recovery in brightness of the nova at the beginning of the present month. Mr. Denning found that after reaching mag. 3·75 on June 29 there was a decided increase in brightness to mag. 3·5 on July 1. With possibly slight variations the star remained at about this brightness up to July 8. The check in the decline of the nova occurred at about the same interval after maximum as in the case of Nova Persei, and it will be interesting to see if Nova Aquilæ will now similarly assume the characteristics of a variable star. The bright lines of hydrogen have continued to dominate the visible spectrum, and no striking changes in detail were noted by Prof. Fowler between June 29 and July 8 except that the reversal of the hydrogen lines was no longer clearly visible. The band in the blue near λ 464 remained a conspicuous feature during this period, and was possibly increasing in relative brightness. The relative brightness of the line 502, however, did not appear to have notably increased.

Photographs of the spectrum obtained by the Rev. T. E. R. Phillips have shown remarkable changes in the structure of the bright bands of hydrogen. On June 13 and 15 the bands had a bright central stripe, with bright companion lines on both sides; on June 22 they were single, but broad; on June 26, 27, and 29 they were double, as if centrally reversed, and the less refrangible components were the brighter; and on July 2 they were again single, but broad. The band about λ 464 appeared as early as June 13, and has continued to brighten; it passed through changes of structure similar to those exhibited by the hydrogen bands. A new bright band appeared on July 4 on the more refrangible edge of a broad, dark space on the violet side of Hγ.

EPHEMERIS OF WOLF'S PERIODIC COMET.—Attempts to find this comet have hitherto been unsuccessful, but as its distance from the sun and earth is steadily diminishing, the comet is likely to be found before long. The following ephemeris is from Mr. Kamensky's elements.—

G.M.T.	R.A.	N. Decl.	Log *r*	Log Δ
	h. m. s.	°		
July 12·46	20 32 52	24 50	0·3368	0·1376
24·64	20 26 3	26 28	0·3217	0·1017
Aug. 5·49	20 17 1	26 45	0·3073	0·0724
17·01	20 8 27	25 50	0·2936	0·0499
28·17	20 2 27	23 52	0·2803	0·0338

THE NEW SYSTEM OF TIME AT SEA.—Mr. F. Jacob suggests the term "Intermeridian Time" for the new system, with the abbreviation I.M.T., so that 4h. 7m. I.M.(+3)T. would be equivalent to 7h. 7m. G.M.T. The suggestion has met with favourable consideration from the Admiralty Committee on the subject. The term "Intermeridian" is unobjectionable for denoting the regions that keep the same time, but its length will probably hinder its general adoption for this purpose.

CONFERENCE OF CORRESPONDING SOCIETIES OF THE BRITISH ASSOCIATION.

THE annual conference of Delegates of Corresponding Societies of the British Association was held in the Geological Society's rooms, Burlington House, on Thursday, July 4. At the morning session Dr. F. A. Bather gave his presidential address entitled "The Contribution of Local Societies to Adult Education." In this Dr. Bather endeavoured to summarise the membership and estimate the strength of the various scientific societies in Great Britain, show the part they were playing in the adult education of the country, and make suggestions for the further usefulness of these societies. His statistics had been difficult to compile and were admittedly incomplete, but it was demonstrated that while some centres were well provided for in the way of natural history and allied science societies, there were many large areas which appeared not to be served by any societies of the kind. Discussion was invited, which lasted for the remainder of the morning. The general feeling was that, desirable as it is that everything should be done to increase the popularity and work of our scientific societies, the present time was inopportune, seeing that so many of the young and vigorous men were occupied with more important duties. In his reply to the discussion the president attached particular importance to the remarks made by the delegate from Hull, in reference to the excellent work being accomplished in Yorkshire, where there are far more important societies than in any other county. It was pointed out that, notwithstanding the elaborate and systematic instruction in Nature-study in the schools, and the formation of Nature-study societies for teachers, the result was unquestionably that there was less apparent interest taken in natural history by young men and women after leaving school, and even before the war the membership of the societies had shown an apparent decrease. The conference decided to endeavour to prepare a list of all the scientific societies in the country.

At the afternoon session Mr. Martin C. Duchesne read an admirable paper on "Afforestation," Sir Charles Bathurst and many of the delegates taking part in the discussion. The lecturer dealt at length with the urgent question of the increase of our home forests, and made many excellent suggestions towards the accomplishment of this. It was felt that the delegates could get the societies they represented to use their influence to further the growth of timber throughout the country, and one practical proposition was made, namely, to form an Arbor Day throughout the country. Such a suggestion, made on July 4, was also complimentary to our American friends, who have had an Arbor Day for many years. A short note from Mr. P. Westall, who was not present, was read, the gist of which seemed to be that some authority should make grants to local museums, but how and by whom these grants should be made the author did not seem to know, and the delegates did not appear to be able to help him. On behalf of Mr. B. B. Woodward a "typomap" of the British Isles was exhibited, upon